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09/772,287	01/29/2001	Yong Ho Son	DIVA/253	9290

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EXAMINER

USTARIS, JOSEPH G

ART UNIT	PAPER NUMBER
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2616

DATE MAILED: 09/10/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/772,287

Applicant(s)

SON ET AL.

Examiner

Joseph G Ustaris

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4.5.8</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Specification

1. The abstract is objected to because of the following informalities:
 - The abstract exceeds the maximum word length of 150 words. Please revise the abstract's contents in order to meet the proper format of an abstract.

Appropriate correction is required.

Claim Objections

2. Claim 12 is objected to because of the following informalities:
 - Claim 12 page 22 line 1, "at least on packet" should be --at least one packet--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 4 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 recites the limitation "said local streaming server" in line 20. There is insufficient antecedent basis for this limitation in the claim. The examiner will read claim as --coupled to a local streaming server--.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 4, 5, 8, 11-19, 24, and 27-34 are rejected under 35 U.S.C. 102(e) as being anticipated by Mimura et al. (US006557031B1).

Regarding claim 1, Mimura et al. (Mimura) discloses a system for streaming video data or "content" to "at least one access network" (See Fig. 8, 9, and 26; CATV Network, Internet, Access Net). The system "encapsulates content in an Internet Protocol (IP) packet" (See Fig. 6; column 1 lines 1-21, column 2 lines 32-54), wherein the video data is in MPEG and a packetized elementary stream (PES) format to be compatible with both IP network and its native CATV network or "processes content into a format native to an access network from which a user request originated" (See Fig. 6, 8, 9, and 26; column 10 lines 43-62). The system then "streams IP packet containing

content to at least one access network via a distribution network" (See Fig. 8, 9, and 26).

Regarding claim 2, the system also "preprocesses content into at least one packet" (See Fig. 6) that has a format and size optimized for streaming, which inherently includes "storage and retrieval at a local streaming server" (See Fig. 8, 9, and 26 Video Server, Server, Internet Server). Furthermore, the system "encapsulates at least one packet of content in a payload portion of a real time transport protocol (RTP) packet; and encapsulating the RTP packet in a payload portion of said IP packet" (See column 2 lines 32-54).

Regarding claim 4, the system inherently stores the video data "on a storage medium coupled to said local streaming server" (See Fig. 8, 9, and 26; Video Server, Server, Internet Server).

Regarding claim 5, the system disclosed by Mimura retrieves the video data from the servers "in response to a user request from at least one access network" (See Fig. 8, 9, and 26; column 13 line 66 – column 14 line 6).

Regarding claim 8, the system streams the video data "in real time" (See column 10 lines 28-31; column 12 lines 25-28).

Regarding claim 11, inherently one of the servers within the system retrieves the video data or "content" from "a local storage device" and sends the video data "encapsulated" within an IP packet. Furthermore, Mimura discloses that a real-time MPEG encoder is used to provide an MPEG signal or "transcoding content into MPEG-1

or MPEG-2" (See column 8 lines 46-57), where inherently the "transcoding occurs after storage" in order to provide MPEG packets that is encapsulated within an IP packet.

Regarding claim 12, the system "separates IP packet into a header portion and a payload portion encapsulating at least one packet of content" (See Fig. 6 and 11), wherein the video data or "content" is in MPEG and PES format to be compatible with both IP network and its native CATV network or "converting at least one packet of content into a format supported by said access network" (See column 10 lines 43-62). The "header portion" and "said converted at least one packet of content" are packetized into the IP packet (See Fig. 6 and 11).

Regarding claim 13, the "access networks" are a CATV network or "cable network" (See Fig. 9) and the Internet or "internet network" (See Fig. 8).

Regarding claim 14, the interworking units "extract content from IP packet downstream of said distribution network" (See Fig. 8 and 9 elements 54 and 62; Fig. 26 element 310; column 11 line 59 – column 12 line 15).

Regarding claim 15, the system send video data from the CATV network to the set-top-box (STB) or from the Internet to the client or "transmitting content from at least one access network to subscriber equipment of a requester for content" (See Fig. 8, 9, and 26).

Regarding claim 16, the system includes a CATV networks, Internet, and other access networks, i.e. DAVIC networks or "wherein at least one access network comprises a plurality of non-homogeneous access networks" (See Fig. 8, 9, and 26).

Claim 17 contains the limitations of claims 1 and 5 (wherein the system is also considered an "interactive information distribution system" and where the maximum transfer unit (MTU) size of an IP packet can change based on the network or "providing scalable streaming" (See column 10 line 63 – column 11 line 15)) and is analyzed as previously discussed with respect to those claims. Furthermore, the system includes a server, video server, Internet server or "at least one stream caching server" that distributes video data to a CATV network, Internet, or access network or "at least one access network" via Internet or "distribution network" as discussed in claim 1 above (See Fig. 8, 9, and 26). The interworking unit serves the function as the "packet processor", where it is "coupled to at least one stream server for processing encapsulated content within said IP packets into at least one packet in a format native to said at least one access network" (See Fig. 8, 9, 11, and 26; column 11 line 57 – column 12 line 15).

Claim 18 contains the limitations of claims 16 and 17 and is analyzed as previously discussed with respect to those claims.

Claim 19 contains the limitations of claims 2 and 17 and is analyzed as previously discussed with respect to those claims.

Regarding claim 24, Mimura discloses that a real-time MPEG encoder is used to provide an MPEG signal or "transcoding content into MPEG-1 or MPEG-2" (See column 8 lines 46-57), where inherently the interworking unit would restore the MPEG packets from the IP packets or "transcode contents into...MPEG-1 or MPEG-3" (See Fig. 8, 9, 11, and 26).

Regarding claim 27, the payload contains a number of packets that includes a transport stream (TS) header or "read block" that is used "for transcoding of content packets into a format supported by said access network" (See Fig. 11).

Regarding claim 28, the interworking unit also serves the functions of the "data link converter" where it "transfers content to subscriber equipment of a requester for said content" via Internet, CATV network, or access network (See Fig. 8, 9, and 26).

Claim 29 contains the limitations of claims 1, 14, 17, and 28 and is analyzed as previously discussed with respect to those claims.

Claim 30 contains the limitations of claims 13 and 18 and is analyzed as previously discussed with respect to those claims.

Regarding claim 31, the system inherently includes a "at least one random access data server coupled to said at least one stream server via said distribution network" in order to provide a video guide or electronic program guide (EPG) (See column 14 lines 17-27).

Regarding claim 32, the "data server" discussed above is inherently an "electronic program guide server" in order to provide the EPG to the user.

Regarding claim 33, the servers disclosed by Mimura are "video-on-demand" servers, where the user is able to request a video and it is delivered to the user as discussed in claim 5 above.

Claim 34 contains the limitations of claim 1, 2, and 17 (wherein the IP packet conforms to the "data structure") and is analyzed as previously discussed with respect to those claims. The IP packet includes an IP header, an IP payload of RTP packets as

discussed in claim 2 above, wherein the RTP packet includes the TS header that includes a "a plurality of stream check bits" (See column 2 lines 17-18). Lastly the video data or "content" within the payload are "configured as a plurality of MPEG packets" (See Fig. 6 and 11; column 2 lines 32-54).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9, 10, 20, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mimura et al. (US006557031B1).

Claim 9 contains the limitations of claims 1 and 2 and is analyzed as previously discussed with respect to those claims. Furthermore, Mimura discloses that a real-time MPEG encoder is used to provide an MPEG signal or "transcoding content into MPEG-1 or MPEG-2" (See column 8 lines 46-57). However, Mimura does not disclose that the "transcoding occurs prior to storage on a local stream server".

Official Notice is taken that it is well known to transcode data using various coding methods, i.e. MPEG, before storing. Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the system and servers disclosed by Mimura to transcode the video data before storing in order to

have the data prepared and ready for transmission though the network thereby reducing the amount of time it takes to respond to a user's request for video data.

Claim 10 contains the limitations of claims 4 and 9 (wherein the transcoded video data is stored at the server) and is analyzed as previously discussed with respect to those claims.

Claim 20 contains the limitations of claims 4 and 19 and is analyzed as previously discussed with respect to those claims. However, Mimura does not disclose that the video data or "contents" are stored as IP packets.

Official Notice is taken that is it well known to store data as IP packets. Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the system and servers disclosed by Mimura to store data as IP packets in order to have the data prepared and ready for transmission though the network thereby reducing the amount of time it takes to respond to a user's request for video data.

Claim 25 contains the limitations of claims 9, 10, 20, and 24 and is analyzed as previously discussed with respect to those claims.

Claim 26 contains the limitations of claims 11 and 24 (wherein the video data is transcoded into MPEG format before being encapsulated within an IP packet) and is analyzed as previously discussed with respect to those claims.

Claims 3 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mimura et al. (US006557031B1) in view of Zheng et al. (US006611522B1).

Claim 3 contains the limitations of claims 1 and 2 and is analyzed as previously discussed with respect to those claims. However, Mimura does not disclose "formatting content to support playback at a quality of service (QoS) corresponding to at least one access network".

Zheng et al. (Zheng) discloses a QoS system for use within an Internet protocol digital communication system. The system is able to schedule and shape the output of the packaged data based on the QoS parameters given for the network and output or "formatting content to support playback at a quality of service (QoS) corresponding to at least one access network" (See column 11 line 34 – column 12 line 14). Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the system and servers to "format content to support playback at a quality of service (QoS) corresponding to at least one access network", as taught by Zheng, in order to ensure that the user will receive the video data and for the video data to at the highest quality possible thereby enhancing the user's entertainment experience.

Claim 23 contains the limitations of claims 3 and 17 and is analyzed as previously discussed with respect to those claims.

Claims 6, 7, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mimura et al. (US006557031B1) in view of Wahl (US005898456A).

Claim 6 contains the limitations of claim 5 and is analyzed as previously discussed with respect to that claim. However, Mimura does not disclose "retrieving

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content from a remote stream server that is remotely located from said local stream server in an instance where said content is unavailable from said local stream server”.

Wahl discloses a communications system with hierarchical server structure used for video-on-demand services. Wahl discloses that if the user requests a movie that is not available from a local server, the local server then requests the movie from a central server or “retrieving content from a remote stream server that is remotely located from said local stream server in an instance where said content is unavailable from said local stream server” (See column 1 lines 32-39). Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the system and servers to “retrieve content from a remote stream server that is remotely located from said local stream server in an instance where said content is unavailable from said local stream server”, as taught by Wahl, in order to ensure that the requested video data is successfully delivered to the user.

Regarding claim 7, furthermore Mimura in view of Wahl discloses that the “retrieved content from said remote stream server is stored on said storage medium coupled to said local stream server” (See Wahl column 1 lines 35-40). Furthermore, the movies are transferred based on the number of times the movie has been requested, where movies that are frequently requested are located on the local servers or “in an instance where a predefined user request threshold has been exceeded” and movies less frequently requested are located at the central server (See Wahl column 1 lines 25-47).

Claim 21 contains the limitations of claims 6 and 17 (wherein Mimura in view of Wahl disclose a central or "remote" server and a local server) and is analyzed as previously discussed with respect to those claims.

Claim 22 contains the limitations of claims 6 and 21 (wherein Mimura in view of Wahl discloses that video data is retrieved from a central server if it is unavailable at the local server) and is analyzed as previously discussed with respect to those claims.

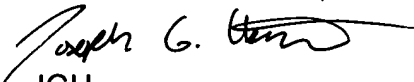
Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please take note of Northcutt et al. (US006185737B1) for their similar method of encapsulating video data within a RTP packet.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph G Ustaris whose telephone number is 703-305-0377. The examiner can normally be reached on M-F 7:30-5PM; Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew I Faile can be reached on 703-305-4380. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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September 1, 2004


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